BWDS NEWSLETTER

2012/01 2 MARCH 2012

Website : www.bwds.be

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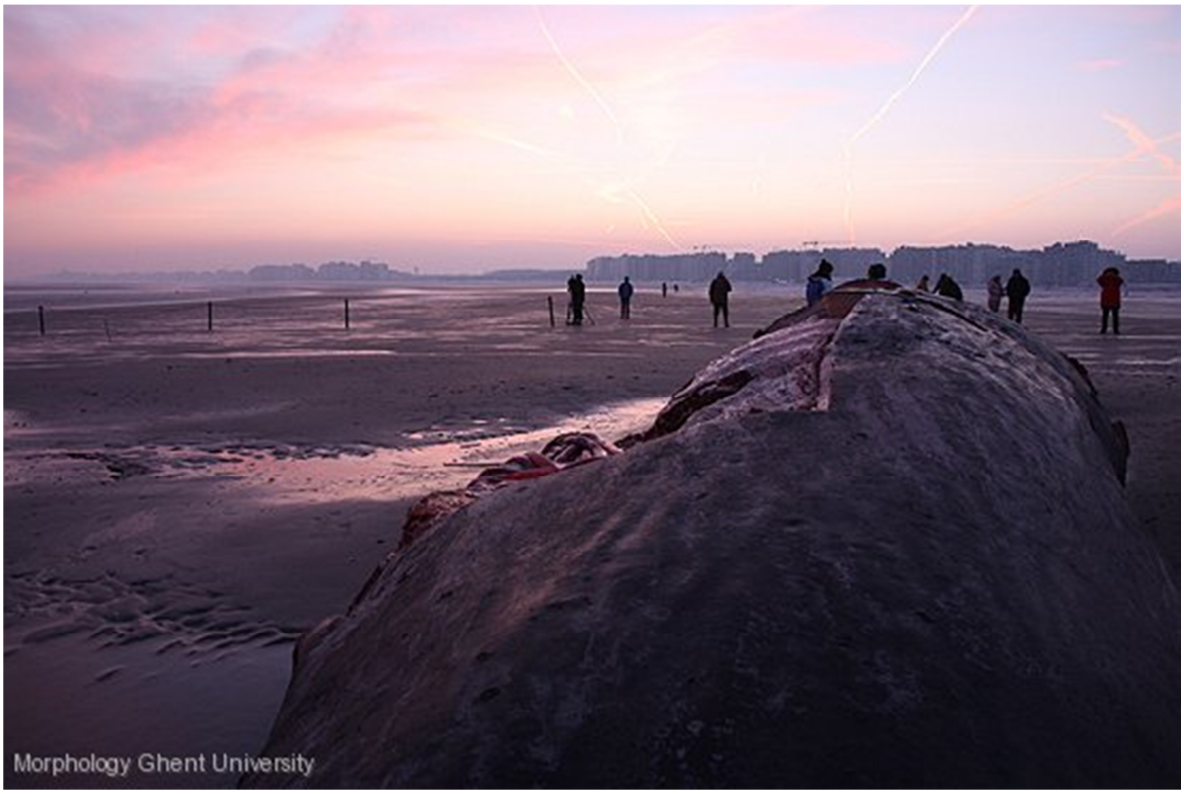
1. Happy New Year

The BWDS board wishes you all the very best for the new year 2012 !! We are looking forward to a continued fruitful cooperation between all those involved in wildlife disease related matters in Belgium.



"Theofiel", the sperm whale (*Physeter macrocephalus)* that stranded on 8 February 2012 on the beach of Heist. The animal was still alive but died quite soon after washing ashore. Examination by the Pathology Department, Veterinary Faculty, of the Liège University did not reveal any indications for a previously existing health problem. (Photo: Morphology Department, Veterinary Faculty, Ghent University)

2. Editorial

Another year has passed and for Belgium, as far as we know, the foregoing year has not been marked by any important new wildlife disease events. Despite the small surface of this country, it would be an illusion to think that nothing ever happens here. A good illustration but only concerning domestic animals until now, is the new Schmallenberg virus recently found in domestic ruminants. To our knowledge no wildlife hosts have been reported as yet. In Belgium and the neighbouring countries, the networks with access to wild ruminants are alert and can report quickly if any indications would be found.

We can look back on a successful 4th edition of the BWDS Symposium, emphasizing the role of exotic animal species on wildlife health. Climate change, globalisation and land use changes appear to be major driving forces behind many shifts in ecosystem balances and disease outbreaks. Whereas biologists and biomedical scientists seemed to "live on different planets" until recently, the last BWDS Symposium proves they do share common interests in studying wildlife-borne diseases and protecting biodiversity. The participation in the Symposium proves that working together between these two universes, in full respect for the approach and concerns of both sides, has come within reach now.

As BWDS we hope to continue to strengthen the ties between all the players in the Belgian field of wildlife disease related subjects. Our "home style" of informal and friendly communication provides a voice to everyone interested and involved in wildlife health and biodiversity. Like in other fields, it is extremely worthwhile to compare the pros and cons of, on the one hand, a currently omnipresent result-orientated approach inspired by evolved interpretations of "management" principles, with on the other hand the creation of a substrate where "slow science" is still allowed, driven by pure interest. The question which of the two approaches is the most rewarding towards the future, is left to everyone's individual appreciation. Interesting links to get inspiration are: http://slowscience.fr/?page_id=43 and http://www.lemonde.fr/imprimer/article/2011/12/16/1619588.html

Finally we would like to launch a call for sending us your data about the occurrence of wildlife-borne diseases figuring on the OIE lists ("notifiable" and "non-notifiable" diseases) you may have collected during the past year. This information will help the Belgian "focal points" to draft the notification form for 2011, after which they will submit it to the Central Veterinary Officer and the WHO/OIE.

Paul Tavernier, president BWDS

3. Meeting Report

The last general meeting in 2011 took place on December 16th at the Ostend Bird and Wild Animal Rescue Centre (VOC Oostende).

Present: Annemarie Warendorf [1,9], Claude Velter [1,2], Pol Simons [3], Paul Heyman [3], Christel Cochez [3], Eline De Blander [4], Kristof Baert [5], Jan Stuyck [5], Jo Maris [6], Leen Claes [7], Jean De Borchgraeve [7], Stéphanie Nemeghaire [8], Stefan Roels [8], Sophie Roelandt [8], Paul Tavernier [9]

[1] VOC Oostende, [2]ANB, [3]Defence/ RL-VBD, [4]UGent, [5]INBO, [6]DGZ Vlaanderen, [7]ITG, [8]CODA-CERVA, [9]Vet. practician

The Ostend bird and Wild Animal Rescue Centre was transferred in recent years from the old location (an annex of the Ostend fish hall) to the modern new building at the provincial domain in Raversijde, just south of Ostend. In spite of the stormy weather, fifteen courageous attendants showed up for this meeting in the Belgian "Far West".

The meeting consisted entirely in an extensive presentation about the etiology and impact of oil pollution on sea and about the rescue, treatment and rehabilitation of oil affected sea birds. The presentation was given by Annemarie Warendorff who is the cooperating veterinary surgeon at the VOC Oostende. It was followed by a visit to the rescue facilities, guided by Claude Velter, the director of the centre. The abstract with a short summary of the presentation is included in this Newsletter.

Due to a shortage of time, no administrative chapter was held and it was decided to postpone the discussion of the agenda points to a BWDS board meeting in the beginning of 2012. The meeting was concluded with a convivial dinner on the Ostend see dike, while observing the winter storm from behind the windows.

Report: P.Tavernier

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4. Abstracts

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(1) Presentation "**Oiled birds**" by Annemarie Warendorff (BWDS meeting, December 16th, 2011)

Oil pollution of the marine environment is caused by ships illegaly cleaning their tanks in the open sea, by oil spills or by disasters (shipwrecks). The oils are crude or refined and more or less volatile (examples are gasoline, kerosene, diesel oil, heavy fuel oil) and are composed of polyaromatic hydrocarbonderivates (PAH's).

Oil slicks on sea temper the wave motions which attracts sea birds to rest in these zones. The large majority of affected birds are Guillemots (*Uria aalge*; zeekoet, guillemot de Troil), followed by Razorbills (*Alca torda*; alk, petit penguin), Gannets (*Sulla bassana*; Jan van Gent, Fou de Bassan), Puffins (*Fratercula arctica*; Papegaaiduiker, Macareux moine) and sea ducks such as Common Scooters (*Melanitta nigra*; Zwarte Zeëeend Macreuse noire) and Eiders (*Somateria molissima*; Eidereend, Eider à duvet).

The treatment and cleaning of oiled birds is controversial. Poor results obtained in the past explain the widespread doubts about these interventions. Nevertheless a lot of research has been done in recent years and the treatment protocols have improved substantially, resulting in much higher survival rates. It has to be carried in mind that the costs of cleaning and treating oiled seabirds represent only 1 to 2 % of the costs for cleaning the oil contaminated shores. The impact of oil pollution incidents goes far beyond the direct impact on wildlife and shores because entire ecosystems are disturbed for years.

The initial selection and first treatment of the birds is a most essential step in the procedure and is based on increased knowledge about internal and external effects of oil contamination. Oil is affecting the intestinal barrier and causes diarrhea, electrolyte losses and haemorrhages. Many other organs are affected including the eyes and the skin. Furthermore, hemolytic anemia is observed with Heinz bodies appearing in the red blood cells. Most oil contaminated birds are hypothermic and dehydrated, and need a rapid warming up and rehydration by gastric tube with electrolyte solutions.

Itraconazole and antibiotics to prevent respectively aspergillosis and secondary bacterial infections are administered. Next the birds are followed up intensively: weight, hydration status, body temperature, PCV (packed cell volume, hematocriet, hématocrite) and appetite are monitored. From the moment these criteria are stabilized in a bird admitted since minimum three days, the cleaning procedure can be started.

The washing and rinsing to eliminate all soap rests have to be carried out accurately. Monitoring of the mentioned criteria has to be continued after the cleaning procedure until the bird is completely "waterproof" and can be released. By taking into account the general condition parameters including PCV, much better results are obtained then before.

Text: A.M. Warendorff

(2) *English abstract* of the presentation "**Forensic Entomology**", by Walter Fagot, BWDS June 21st, 2011 The *Dutch version* was included in the preceding newsletter

Some easily applicable forensic techniques enable to estimate the moment of death. The latter is indicated as the postmortem interval or PMI, which is important for the judgement whether or not an animal has been killed by lightning. The Belgian Meteorological Institute can provide a map on which the place and exact time of a lightning are pinpointed. These data are compared to the PMI estimation. The PMI may also be used to link to poacher's activities.

A first technique consists of the analysis of the corpus vitreum fluid. By examining changes in the urea, creatinine, sodium, potassium, calcium and phosphorus content, estimation of the PMI is possible. Problems of interpretation and reliability have to be taken into account as these changes can have other causes, unrelated to sudden death. Further research into standards for PMI's longer than 48 hours would be useful, as well as research into standards for other animals than cattle, horse and swine.

A second technique consists of collecting eggs and maggots of blow flies on corpses. For reliable determination, adult flies may be cultivated from these eggs and maggots. A PMI can be estimated by determining the moulting stage and the length of the larvae, and comparing them with diagrams and data from literature.

The combination of the two techniques may result in more reliable PMI estimates. Measuring local temperature and temperature of the corpse appear to be very important, because basic data on the corpus vitreum composition and on larval development greatly depend on temperature. Although these techniques open a number of possibilities, further research could lead to a more accurate use in veterinary medicine.

Text: W. Fagot

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5. Report 4th BWDS Symposium, October 7th, 2011

The general theme chosen for the 4th BWDS Symposium was "Consequences of Wildlife Introductions" referring to the international year of biodiversity 2010 and to the ever growing evidence of ecological disorders induced by translocating wild animals (see also : Invasive species (Part 1 and Part 2). *Revue Scientifique et Technique de l'Organization Mondiale de la Santé Animale* (OIE, WHO). Vol 29 (1 and 2), 2010)

For the first time the Symposium was not held in the military hospital Queen Astrid as the three former editions, but at the Tervuren site of the CODA / CERVA / VAR (Veterinary and Agrochemical Research Centre), next to the Royal Museum of Central Africa. There were 98 participants, mainly from Belgium, but also some from the UK, The Netherlands, France and Hungary. People attending were coming from universities (Ghent, Antwerp, Liège, Brussels, Louvain), federal institutes (FAVV/AFSCA, WIV/ISP, CODA/CERVA, FOD/SPF Public Health, Ministry of Defense), regional institutes (SP Wallonie, INBO), pharnaceutical companies (Biorad, Bayer) and other organizations involved in wildlife study or disease control, such as ITG, DGZ, Natuurpunt and the Royal Museum of Central Africa.

The meeting was opened by Dr Pierre Kerkhofs, general director of the VAR. We were honoured by the presence of Dr. Paul-Pierre Pastoret of the World Organization for Animal Health (WHO, OIE) who gave a general overview about the problem of invasive species. Ten oral presentations given by Belgian and foreign invited speakers covered various subjects of the impact of introduced animal species. In the morning, the current knowledge about introduced and invasive animal species in Belgium, France and the United Kingdom was presented, as well as an introduction to disease risk analysis (DRA) for wild animal translocations for conservation purposes. In the afternoon case studies were presented about fish and rodent pathogens, mycoses in lower vertebrates, and large liver fluke in deer. Fifteen poster presentations on different "wildlife disease subjects" were displayed in the lunch room. The abstracts of the oral and poster presentations can be read on the BWDS website: www.bwds.be

At the end of the day, the award for the best student thesis about wildlife diseases was handed to the winner Eline De Blander for her masters thesis “Het belang van een hoge muizenstand voor het voorkomen van teken en de ziekte van Lyme” (“The importance of mice abundance in the occurrence of ticks and Lyme disease”). This thesis was defended at the Ghent University for the Faculty of Science, Biology Group, Terrestric Ecology, and the Faculty of Bio-Engineering, Group of Forestry.

An award for the best poster was handed to T.Kervyn, for his poster "Monitoring Geomyces destructans on hibernating bats: first results in Belgium". The second poster prize was handed to S.Gengler, A.Laudisoit and P.Wattiau for their poster “Entomopathogenic nematodes as disseminating agents for Yersinia pseudotuberculosis”.

Participants were invited to evaluate the Symposium by means of an inquiry form. The results were summarized during a board meeting on January 18th, 2012. Regarding the overwhelming positive reactions, this 4th Symposium appears to have been the most appreciated so far. Possibly the higher degree of “multidisciplinarity” of the chosen theme has played a prominent role herein. The detailed comments and the internal evaluation by the BWDS board members themselves will be used for the organization of the next edition in 2013.

We gratefully acknowledge the sponsors and all the cooperators. Thanks to them this 4th BWDS Symposium became a top edition.

Text: P.Tavernier

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6. OIE notification of wildlife diseases : call for collaboration

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Dear all, another year has passed and as usual the OIE counts on us to report on the diseases in wildlife that occurred during the year 2011. Normally, this request will come in the months that follow and we are then expected to report before the end of March. In order to be prepared, it would be nice not to wait for the official request and already start to retrospectively search your databases for information on such cases. As usual, these data must be filled in based on an excel questionnaire which can be obtained on the website of the OIE (http://www.oie.int/international-standard-setting/specialists-commissions-groups/working-groups-reports/working-group-on-wildlife-diseases/).

Once completed, these questionnaires should be sent to the focal point of contact for Wildlife Diseases, namely Prof Dr Annick Linden for the Southern part of the country (email : a.linden@ulg.ac.be) and Dr Stefan Roels for the Northern part of the country and Brussels (email : stefan.roels@coda-cerva.be). It is our mission to assemble all the data and put them, under the coordination of the Chief Veterinary Officer (Dr. Pierre Naassens), together in one document which will be communicated to the OIE. We ask you to try to fill in the questionnaire with the data you can provide, please be as complete as possible. Your highly appreciated input will help us to draft the official Belgian notification of wildlife diseases for the year 2011.

Just to remind you what the OIE means with wildlife: terrestrial animals, defined as ‘a mammal, bird or bee. It is important that next to true “wildlife”, information is also requested on feral and captive wild animals. “Captive wild animals” are those animals that live under human supervision or control but do not have their phenotype selected by humans. “Feral animals” are those animals that do not live under human supervision or control but do have their phenotype selected by humans. Note that fish are not included in these groups.

We count on your kind collaboration, and thank you very much in advance.

Stefan Roels,
Focal point on wildlife diseases for OIE; vice-president BWDS

7. Sampling networks

A major difference in surveillance of pathogens in wildlife as compared to domestic animals is the difficulty of obtaining relevant samples, as well from a technical (quality) as from an epidemiological point of view. In many cases it is necessary to "use what you can get", in contrast to the predetermined number, kind and quality of samples that can be requested in domestics. In order to meet the first demands of collecting samples in wildlife, a basic step is to have access to the animal groups of concern. During the WILDSURV project (2008-2010), existing networks that could be approached for sampling in the main groups of wild animals in Belgium were identified. Simultaneously, steps were taken to start new sampling networks where gaps existed. It is evident that time, resources and consultation are necessary to get the potential networks "operational" in a "stand-by" status, enabling to activate different "modules" whenever necessary. Below we list the main networks existing in Belgium.

- Cervids: In Wallonia disease surveillance in wild cervids is carried out by the "Réseau de surveillance sanitaire en faune sauvage (RSFS)". In Flanders a small-scale network for collection of blood samples in roe deer was started up during the WILDSURV project. Due to the different hunting method(s) in Flanders (one by one) as compared to Wallonia (battue) the collection of samples is more slowly in Flanders. The collection of roe deer blood samples in Flanders was continued on a voluntary base after the end of the WILDSURV project, within the frame of the BWDS. At the moment of writing a total number of 162 blood samples was obtained. Preliminary serologic results of the samples collected until now will be resumed soon (a first report was presented already earlier as a master thesis at the ULB by Aurore Guiet in 2009).
- Rodents and insectivores: Consultation between the groups having access to wild rodents and insectivores was started up during the WILDSURV project. These groups (mainly Flemish) include the wild rodent research unit of the INBO, the Zoogdierenwerkgroep (Natuurpunt) and the Lab for Vector-borne diseases of the Ministry of Defence. A meeting about all aspects of sampling in wild rodents resulted in a document "Guidelines for sampling in wild rodents" that is available at the BWDS website. -
- Carnivores: In Wallonia carnivores are sampled by the RSFS. In Flanders the "Martens network" ("Marternetwerk") functions thanks to a large number of volunteers who collect found dead carnivores (mainly traffic victims). This material is stored in freezers at different locations in Flanders and transported to different institutes for biological research and surveillance purposes (e.g. morphometric research at the INBO, Trichinella research at the ITG, rabies research at the WIV/ Pasteur Institute)
- Lagomorphs: In Wallonia rabbits and hares are monitored by the RSFS. The Osiris network in Flanders is a cooperation between the hunters association Hubertusvereniging (HVV) and Dierengezondheidszorg (DGZ) to collect dead found or shot hares having shown symptoms, for diagnosis
- Wild boar: Wild boar are sampled In Wallonia for different purposes by the RSFS. Wild boar have appeared also in Flanders now since a few years. Surveillance for Classical Swine Fever (CSF) was started up by the Flemish Government (Agentschap voor Natuur en Bos, ANB) since two years. All hunter killed wild boar are screened for Trichinella at the processing units before they enter the Belgian food chain.
- Bats: The Vleermuizenwerkgroep in Flanders and Natagora in Wallonia are voluntary organizations whose members are studying and have access to bats. When dead bats are found they are collected and stored frozen. Mainly for the investigation for rabies there is an active cooperation with the Scientific Institute for Public Health (WIV/ISP : dept. Pasteur).
- Sea mammals stranded at the Belgian coast are examined and sampled by the Pathology department of the Liège Veterinary Faculty, under coordination of the Management Unit of the Mathematical Model of the North Sea (MUMM), a department of the Royal Belgian Institute of Natural Sciences (KBIN/IRSNB). Since recently, the Morphology department of the Ghent Veterinary Faculty is involved as well.
- Birds : The bird ringing department of the KBIN / IRSNB, and also game bird hunters, provide samples for avian influenza and West Nile Virus surveillance. The wild bird and wild animal rescue centers in Flanders (coordinated by Vogelbescherming Vlaanderen) and Wallonia (coordinated by CREAVES) offer excellent possibilities to discover "iceberg-tip" data about pathogens circulating in wildlife and constitute

an important source of information that is currently not exploited. A veterinary guidance agreement as known in other veterinary fields, providing veterinary support and the opportunity to fine-tune practical and legal functioning of these centers, would also offer broad possibilities for sampling for active and passive surveillance in wildlife. As these centres work on a voluntary base, an official budgetary support for such veterinary agreements is inevitable and would offer a win-win status for all the parties involved. It is disappointing to learn that subventions to the bird and wild animal rescue centers are cut down, jeopardizing at the base the unique possibilities these centers could offer for wildlife disease surveillance. In the context of a growing international awareness of pathogens emerging from wildlife such economies are in contrast with the increased need for surveillance.

Text: P.Tavernier

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8. Next Meeting

The first general assemblee for 2012 will be held on **Wednesday 28 March, from 10:00 to 13:30, at the Food Safety Center (FAVV- AFSCA), Kruidtuinlaan / Avenue du Jardin Botanique 55, 1000 Brussels, Room K05/120321, 5th floor.**

Three speakers are scheduled: Dr. Victor Luyasu (UCL) with a presentation about borelliosis (Lyme disease), Stefan Roels (CODA/CERVA) who will present an update about the most recent modalities for the OIE notification of wildlife diseases, and Leen Claes (ITM) about Trichinella surveillance in foxes. A reminder for this meeting will be distributed by Newsflash.

For those wishing to attend please send us (by mail to info@bwds.be) your name and affiliation which we need for the security check at the reception of the Food Safety building.